

REMARKS

Claims remaining in the present patent application are Claims 1 – 29.

Applicants respectfully assert that no new material is added as a result of the amendments presented herein. Applicants respectfully request reconsideration of the above captioned patent application in light of the amendments presented herein and the following remarks.

Oath/Declaration

The Official Action indicates that the oath or declaration is defective, as it does not include the inventor's signature.

A response to missing parts was previously filed correcting this defect. Applicants have received a post card receipt from the USPTO, indicating receipt of the declaration/oath document, dated May 9, 2002. A copy of this receipt is attached hereto. A copy of the signed Oath and Declaration is also attached hereto.

Drawing Objections

Figure 1 is objected to as not designated by a legend such as "prior art." Applicants respectfully assert that a corrected drawing sheet for Figure 1 submitted herewith corrects this defect, and respectfully solicit acceptance of

this drawing. Applicants respectfully assert that no new material is added as a result of the replacement drawing sheet submitted herewith.

Figures 5-8, and 10-13 are objected to as failing to comply with 37 CFR § 1.84(p)(5) because they include reference characters not mentioned in the description. Applicants respectfully assert that amendments to the specification presented herein overcome this objection, and respectfully solicit acceptance of these drawings. Applicants respectfully assert that no new material is added as a result of the amendments presented herein.

35 U.S.C. § 102 Rejections

Claims 1, 4 and 6-15 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Lepejian (US# 6,154,714, “Lepejian”). Applicants have carefully reviewed the cited reference and respectfully assert that embodiments of the present invention as recited in Claims 1, 4 and 6-15 are not anticipated or rendered obvious by Lepejian.

With respect to Claim 1, Applicants respectfully assert that Lepejian is directed toward “testing an integrated circuit wafer” (Abstract, *inter alia*, emphasis added). By teaching methods directed toward wafers, Applicants respectfully assert that Lepejian actually teaches away from the claim limitation of a “die-strip” as recited by Claim 1.

For this reason, Applicants respectfully assert that Claim 1 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

In addition, with respect to Claim 1, Applicants respectfully assert that Lepejian does not teach or suggest, “automatically tracking locations of a die-strip” as recited by Claim 1. Applicants respectfully assert that Lepejian is silent as to tracking locations of die-strips. The portion of Lepejian cited by the rejection refers to directing wafers to a particular location. Applicants respectfully assert that one of ordinary skill in the art would understand a fundamental difference between the taught “directing” and the recited “tracking.” Moreover, Lepejian does not teach or suggest automatic location tracking as claimed.

For these additional reasons, Applicants respectfully assert that Claim 1 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Further with respect to Claim 1, Applicants respectfully assert that Lepejian does not teach or suggest a “back-end manufacturing process” as recited by Claim 1. Applicants respectfully assert that the one of ordinary skill in the art would not understand the manufacturing processes taught by Lepejian [Physical Vapor Deposition (PVD), Chemical Vapor Deposition (CVD) (column 4 lines 29-30) to teach or suggest the recited “back-end manufacturing process(es).” Furthermore, it is well known that such manufacturing processes taught by Lepejian are not conventionally applied to the recited “die-strips.”

For these further reasons, Applicants respectfully assert that Claim 1 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Claims 2-13 depend from Claim 1. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable base claim, and respectfully solicit allowance of these Claims.

In addition with respect to Claim 6, Applicants respectfully assert that Lepejian does not teach or suggest “a processing history of said die-strip” as recited by Claim 6. Applicants respectfully assert that Lepejian is silent as to this limitation. Applicants respectfully assert that the rejection improperly equates Lepejian’s “historical knowledge base” with the recited “processing history.” Applicants respectfully assert that Lepejian’s “historical knowledge base... contains information relating to all identified defects” (column 5 lines 66-67). Applicants respectfully assert that the taught “information relating to all identified defects” does not teach or suggest the recited “processing history.” Applicants respectfully assert that one of ordinary skill in the art would understand “processing” as recited to refer to methods of manufacture of a semiconductor, whereas the taught “defects” refers to errors occurring within a structure of a product, e.g., a semiconductor. Applicants respectfully assert that one of ordinary skill in the art would understand a fundamental difference between the taught “defects” and the recited “processing history.”

For this additional reason, Applicants respectfully assert that Claim 6 overcomes the rejections of record, and respectfully solicit allowance of this Claim.

Claim 7 depends from Claim 6. Applicants respectfully assert that this Claim overcomes the rejections of record as it depends from an allowable claim, and respectfully solicit allowance of this Claim for this additional reason.

In addition with respect to Claim 9, Applicants respectfully assert that Lepejian does not teach or suggest, “automatically separating accepted die from rejected die into different containers” as recited by Claim 9. Applicants respectfully assert that Lepejian is silent as to this limitation. Applicants respectfully assert that the rejection improperly equates Lepejian’s “die may be removed” with the recited limitation. A more complete citation of Lepejian teaches, “(a) die may be removed from the testing queue,” and makes clear that the reference is to “a die on a wafer” (column 3 lines 48-55, emphasis added).

As is well known in the art, a testing queue in the Lepejian context is a list of items to be tested. Applicants respectfully assert that removal from such a list does not teach or suggest the first thing about a physical action involving such an item. In addition, as Lepejian is directed toward “testing an integrated circuit wafer” (Abstract, *inter alia*, emphasis added), Lepejian cannot teach a physical separation of one die from another. Furthermore, Applicants respectfully assert that Lepejian is silent as to the recited “containers.”

For these further reasons, Applicants respectfully assert that Claim 9 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

In addition with respect to Claim 12, Applicants respectfully assert that Lepejian does not teach or suggest a “ball grid array” as recited by Claim 12. Applicants respectfully assert that Lepejian is silent as to this limitation. Applicants respectfully assert that the rejection improperly equates Lepejian’s “memory array” with the recited limitation. As is well known in the art, the recited “ball grid array” refers to a type of semiconductor packaging. The taught “memory array” refers to a repetitive layout of integrated circuits. Applicants emphatically assert that the taught “memory array” does not teach or suggest the recited “ball grid array.”

Furthermore, Lepejian identifies the taught “memory array” as being part of a die, and that the die is part of a silicon wafer (column 5 lines 21-35). As is well known in the art, silicon wafers are not commonly packaged as a wafer, much less in the recited “ball grid array.”

For these further reasons, Applicants respectfully assert that Claim 12 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

With respect to Claim 14, Applicants respectfully assert that Lepejian is directed toward “testing an integrated circuit wafer” (Abstract, *inter alia*,

emphasis added). By teaching methods directed toward wafers, Applicants respectfully assert that Lepejian actually teaches away from the claim limitation of a “die-strip” as recited by Claim 14.

For this reason, Applicants respectfully assert that Claim 14 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

In addition, with respect to Claim 14, Applicants respectfully assert that Lepejian does not teach or suggest, “automatically traversing a die-strip through a plurality of integrated sub-stations” as recited by Claim 14. Applicants respectfully assert that Lepejian is silent as to this limitation. The portion of Lepejian cited by the rejection refers to “occasionally” directing wafers to a particular location. Lepejian Moreover, Lepejian does not teach or suggest automatic traversal.

For this additional reason, Applicants respectfully assert that Claim 14 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Further with respect to Claim 14, Applicants respectfully assert that Lepejian does not teach or suggest a “back-end manufacturing process” as recited by Claim 14. Applicants respectfully assert that the one of ordinary skill in the art would not understand the manufacturing processes taught by Lepejian [Physical Vapor Deposition (PVD), Chemical Vapor Deposition (CVD) (column 4 lines 29-30) to teach or suggest the recited “back-end manufacturing

process(es).” Furthermore, it is well known that such manufacturing processes taught by Lepejian are not conventionally applied to the recited “die-strips.”

For these further reasons, Applicants respectfully assert that Claim 14 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Claims 15-20 depend from Claim 14. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable base claim, and respectfully solicit allowance of these Claims.

35 U.S.C. § 103 Rejections

Claims 2, 3, 5, 16-26, 28 and 29 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lepejian (US# 6,154,714, “Lepejian”) in view of Schemmel et al. (US# 5,943,551, “Schemmel”). Applicants have carefully reviewed the cited references and respectfully assert that embodiments of the present invention as recited in Claims 2, 3, 5, 16-26, 28 and 29 are not rendered obvious by Lepejian in view of Schemmel.

Claims 2-13 depend from Claim 1. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable base claim, and respectfully solicit allowance of these Claims. With respect to Claims 2, 3 and 5, Applicants respectfully assert that Schemmel does not fairly

suggest a modification of Lepejian that corrects the deficiencies of Lepejian and respectfully solicit allowance of these Claims.

In addition, with respect to Claim 2, Applicants respectfully assert that Lepejian in view of Schemmel does not teach or suggest the limitation of a “die-strip” as recited by Claim 2. Applicants respectfully assert that Lepejian is directed toward “testing an integrated circuit wafer” (Abstract, *inter alia*, emphasis added). In addition, Applicants respectfully assert that Schemmel is directed to “detecting defects on silicon dies on a silicon wafer” (Abstract, *inter alia*, emphasis added). As neither Lepejian nor Schemmel teach or suggest the recited “die-strip,” Applicant respectfully asserts that Lepejian in view of Schemmel does not teach or suggest this limitation.

For this additional reason, Applicants respectfully assert that Claim 2 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Further with respect to Claim 2, Applicants respectfully assert that Lepejian in view of Schemmel does not teach or suggest the limitation of a “vision camera systems deployed... to automatically recognize a unique code on said die-strip which identifies said die-strip” as recited by Claim 2. The rejection acknowledges that Lepejian does not disclose such camera systems, and relies on Schemmel for such teaching. However, Schemmel teaches a “wafer ID reader (for identifying)... the silicon wafer (column 4 lines 37-39, emphasis added). Applicants respectfully assert that there is no teaching in Lepejian in view of

Schemmel that the recited die-strip comprises the recited “unique code.” Consequently, Lepejian in view of Schemmel does not teach visual identification of a die-strip, as recited by Claim 2.

For this additional reason, Applicants respectfully assert that Claim 2 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Claims 15-20 depend from Claim 14. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable base claim, and respectfully solicit allowance of these Claims. With respect to Claims 16-20, Applicants respectfully assert that Schemmel does not fairly suggest a modification of Lepejian that corrects the deficiencies of Lepejian and respectfully solicit allowance of these Claims.

Further, Applicants respectfully assert that Claim 16 overcomes the rejections of record for the rationale presented previously with respect to Claim 2, and respectfully solicits allowance of this Claim.

Claims 17-20 depend from Claim 16. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable claim, and respectfully solicit allowance of these Claims.

With respect to Claim 21, Applicants respectfully assert that Lepejian does not teach or suggest a “back-end manufacturing process” as recited by

Claim 21. Applicants respectfully assert that the one of ordinary skill in the art would not understand the manufacturing processes taught by Lepejian [Physical Vapor Deposition (PVD), Chemical Vapor Deposition (CVD)] (column 4 lines 29-30) to teach or suggest the recited “back-end manufacturing process(es).” Furthermore, it is well known that such manufacturing processes taught by Lepejian are not conventionally applied to the recited “die-strips.”

Lepejian does not correct this deficiency of Lepejian. Applicants respectfully assert that Lepejian is silent as to any form of manufacturing process. Consequently, Lepejian in view of Schemmel does not teach “back-end manufacturing process(es),” as recited by Claim 21.

For these further reasons, Applicants respectfully assert that Claim 21 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Further with respect to Claim 21, Applicants respectfully assert that Lepejian in view of Schemmel does not teach or suggest the limitation of “a respective code associated with each die-strip” as recited by Claim 21, for the rationale previously presented with respect to Claim 2.

For this further reason, Applicants respectfully assert that Claim 21 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

Claims 22-27 depend from Claim 21. Applicants respectfully assert that these Claims overcome the rejections of record as they depend from an allowable base claim, and respectfully solicit allowance of these Claims.

With respect to Claim 28, Applicants respectfully assert that these Claims overcome the rejections of record for the rationale previously presented with respect to Claim 2, and respectfully solicit allowance of this Claim.

Claim 29 depends from Claim 28. Applicants respectfully assert that this Claim overcomes the rejections of record as it depends from an allowable claim, and respectfully solicit allowance of this Claim.

Claim 27 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lepejian (US# 6,154,714, “Lepejian”) in view of Schemmel et al. (US# 5,943,551, “Schemmel”) and further in view of Wang et al. (US 6,129,278, “Wang”). Applicants have carefully reviewed the cited references and respectfully assert that embodiments of the present invention as recited in Claim 27 is not rendered obvious by Lepejian in view of Schemmel and further in view of Wang.

Claim 27 depends from Claim 21. Applicants respectfully assert that this Claim overcomes the rejections of record as it depends from an allowable base claim, and respectfully solicit allowance of this Claim for this additional reason. Applicants respectfully assert that Wang does not fairly suggest a modification of

Lepejian in view of Schemmel that corrects the deficiencies of Lepejian in view of Schemmel, and respectfully solicit allowance of this Claim.

Further with respect to Claim 27, the rejection acknowledges that neither Lepejian nor Schemmel disclose a “2 dimensional matrix code (for use with a vision system)” as recited by Claim 27. Wang does not correct this deficiency. Applicants respectfully assert that Wang’s teaching in regard to marking semiconductors is limited to “ion doping (for semiconductor wafers)” (column 1 lines 31-32). Wang groups this marking method with other non-visionable markings, e.g., “biochemical binding” and “magnetic recording” (column 1 lines 28-35).

Consequently, Applicants respectfully assert that Wang does not teach or suggest a “2 dimensional matrix code (for use with a vision system)” as recited by Claim 27. Therefore, Applicants respectfully assert that the proposed combination of Lepejian in view of Schemmel and further in view of Wang does not teach or suggest the recited limitation.

For this additional reason, Applicants respectfully assert that Claim 27 overcomes the rejection of record, and respectfully solicit allowance of this Claim.

CONCLUSION

Claims remaining in the present patent application are Claims 1 – 29. Applicants respectfully request reconsideration of the above captioned patent application in light of the amendments and remarks presented herein.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

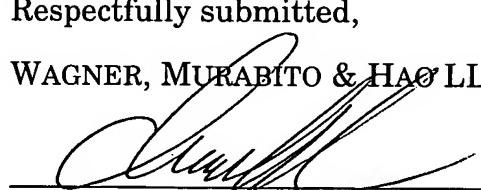
Applicants have reviewed the following references that were cited but not relied upon and do not find these references to show or suggest the present claimed invention: US 6,875,640, US 6,367,042, US 6,337,221, US 6,096,093, 4,928,002.

Please charge any additional fees or apply any credits to our PTO deposit account number: 23-0085.

Respectfully submitted,

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